

Chisman Creek

York County, Virginia
Superfund Program Site Fact Sheet

Type of Facility: Fly Ash Disposal Area

Contaminants: Vanadium, nickel, arsenic, selenium, and traces of other metals

Funding: Enforcement Financed

Site Description and History

The Chisman Creek Superfund Site is in southeastern York County, in a sub-watershed of Chisman Creek, a tributary of the Chesapeake Bay. The site is approximately 30 acres and has four abandoned sand and gravel pits filled with fly ash from the Virginia Power Company's Yorktown Power Generating Station. The site also includes a freshwater tributary that connects three ponds and drains into the Chisman Creek estuary.

Between 1957 and 1974, an estimated 500,000 tons of fly ash, from Virginia Power's Yorktown Power Station, was disposed in the borrow pits. The site was included on the National Priorities List (NPL) in September 1983. EPA completed a Remedial Investigation/Feasibility Study (RI/FS) and Public Health and Environmental Evaluation in August 1986. The contaminants were found to have leached out of the fly ash contaminating ground water, surface water, sediments, and soil.

In September 1986, EPA issued a Record of Decision (ROD) for Operable Unit 1 (OU-1) calling for remediation of Pits A, B, C, and associated ground water. The selected remedy for OU-1 includes: soil covers for Pits A, B, and a clay cap for Pit C; installation of a subsurface drain system and on-site treatment of collected ground water at Pit C; installation of a municipal water supply for area residents; restrictions on the use of contaminated the ground water in the vicinity of the site; and post closure monitoring. Virginia Power signed a Consent Decree in September 1987 agreeing to implement the ROD and completed construction of the Remedial Action (RA) in December 1988. Pit A was developed as a soccer field and Pit C as a baseball field.

The U.S. Fish and Wildlife Service completed the OU-2 Remedial Investigation (RI), focusing on the adjacent ponds, streams, and the Chisman Creek estuary, in September 1987. Virginia Power submitted the Feasibility Study (FS) in January 1988. In March 1988, EPA issued the OU-2 ROD. The selected remedy includes modification of surface drainage near Pond A and the continued monitoring of the ponds, stream, and estuary. In October 1988, Virginia Power signed a Consent Decree agreeing to implement the ROD. All modification work was completed by June 1989.

Virginia Power closed down the on-site ground water treatment plant and started to discharge to the Hampton Roads Sanitation District (HRSD) wastewater treatment system in 1993. EPA issued an Explanation of Significant Differences (ESD) in March 1994 to document this change in the remedy. EPA conducted a five-year review in 1996 and determined that the remedial actions are operating properly and continue to be protective to human health and the environment.

Threats and Contaminants

Vanadium, nickel, arsenic, selenium, and sulfate have been found in ground water near the four fly ash pits. Surface water in Chisman Creek showed contamination with vanadium, nickel, and sulfate. Although drinking contaminated ground water could have posed a risk to the public, this risk has been reduced because the houses with contaminated wells were connected to the public water supply. The subsurface fly ash and pond sediment materials do not pose a public health threat in their present, sheltered location. However, nearby estuaries could be potentially threatened by site contamination.

Current Site Status

Construction of the remedies has been completed, and the site redeveloped as Chisman Creek Park. Ground water monitoring will continue. EPA conducted a second five-year review in November 2001 and determined that a more permanent restriction must be put into place to prohibit ground water use at the site. EPA is working with Virginia Power to amend the restriction to be more protective.

Also, a second ESD is being drafted to update the OU-1 clean up criteria for arsenic and nickel. After the remediation is completed, the site will be considered for NPL deletion.

Community Relations and Concerns

With construction of the ball fields, community relation activities have decreased. A dedication ceremony was held to celebrate the opening of the Chisman Creek and Wolftrap parks in May 1991. Before this dedication, EPA drafted a fact sheet and mailed it to the community.

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